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Song K Jung
Long Aldridge & Norman LLP
Attorneys At Law
701 Pennsylvania Avenue N W 6th Floor
Washington, DC 20004

EXAMINER

LOKE, STEVEN HO YIN

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 02/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/660,186

Applicant(s)

KWAK, DONG YEUNG

Examiner

Steven Loke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The disclosure is objected to because of the following informalities:

In page 5, line 17, it is unclear how the n+ layer 116 can be formed by SiO₂.

There is no reference numeral 119 (page 5, line 23) in fig. 2B.

Appropriate correction is required.

3. Claims 8-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, line 6, "a top of the scanning lines" is unclear whether it is being referred to "a top of each of the scanning lines"; line 9, "the scanning lines" is unclear whether it is being referred to "each of the scanning lines".

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in–

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

5. Claims 1, 2, 4-10, 12 and 13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Endo et al.

In regards to claim 1, Endo et al. shows all the elements of the claimed invention in fig. 5. It is a TFT LCD (thin film transistor liquid crystal display) comprising: a first substrate; a scanning line [211] on the first substrate; a signal line [214] formed to cross the scanning line; a channel layer [213] formed along the signal line [214] and extended to a portion of the scanning line [211]; source and drain electrodes [207, 215] formed separated on the channel layer over the scanning line [211]; a pixel electrode [217] connected to the drain electrode [215]. It is inherent that there is a second substrate and a liquid crystal layer formed between the first substrate and the second substrate.

In regards to claim 2, Endo et al. further discloses the drain electrode [215] is parallel to the signal line [214].

In regards to claim 4, Endo et al. further discloses a gate insulating layer between the scanning line and the channel layer.

In regards to claim 5, Endo et al. further discloses an ohmic contact layer between the source and drain electrodes and the channel layer.

In regards to claim 6, Endo et al. further discloses the source electrode [207] and the signal line [214] are formed as a unit.

In regards to claim 7, Endo et al. further discloses the drain electrode [215] is overlapped with the scanning line [211].

In regards to claim 8, Endo et al. shows all the elements of the claimed invention in figs. 5 and 13. It is a TFT LCD comprising: a first substrate; a plurality of scanning lines [211, 811] on the first substrate; a gate insulating layer on an entire surface inclusive of the scanning line [211, 811]; a channel layer [213, 813] on the gate insulating layer to

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cross the scanning lines [211, 811] having a portion extended to a top of each of the scanning lines [211, 811]; source and drain electrodes [207, 215, 807, 815] formed separated on the channel layer over the scanning line [211, 811]; a signal line [214, 814] formed as a unit with the source electrode [207, 807] along the channel layer which is formed to cross each of the scanning lines; a protection film formed on an entire surface inclusive of the signal line [214, 814]; a pixel electrode [217, 817] connected to the drain electrode [215, 815] on the protection film. It is inherent that there is a second substrate and a liquid crystal layer formed between the first substrate and the second substrate.

In regards to claim 9, Endo et al. further discloses the drain electrode [215, 815] is parallel to the signal line [214, 814].

In regards to claim 10, Endo et al. further discloses the drain electrode [215, 815] crosses the scanning line [211, 811].

In regards to claim 12, Endo et al. further discloses an ohmic contact layer between the source and drain electrodes and the channel layer.

In regards to claim 13, Endo et al. further discloses the scanning line [811] has a portion enlarged in the vicinity of the signal line [814].

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 3, 11 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al.

In regards to claims 3, 11, 17, Endo et al. further discloses the channel layer [213] has a width smaller than a width of the scanning line [211]. It would have been obvious for the channel layer has a width smaller than a width of the signal line because it depends to the desired resistance of the channel layer.

In regards to claim 14, Endo et al. further discloses the channel layer [813] is formed along the signal line [814] over the scanning line [811]. It would have been obvious for the channel layer has a width enlarged as much as a width of the scanning line is enlarged because it depends to the desired resistance of the channel layer.

In regards to claim 15, Endo et al. discloses a TFT LCD in fig. 5. It comprises: a first substrate; a scanning line [211] on the first substrate; a gate insulating layer on the scanning line [211]; a channel layer [213] on the gate insulating layer; a signal line [214] formed to cross the scanning line [211] to cover a portion of the channel layer [213]; a drain electrode [215] formed on the channel layer [213] spaced a distance away from the signal line [214] in parallel to the signal line [214]; a protection film formed on an surface of the first substrate inclusive of the drain electrode; a pixel electrode [217] formed on the protection film connected to the drain electrode. It is inherent that there is a second substrate and liquid crystal sealed between the first and second substrates.

It would have been obvious for the protection film formed on an entire surface of the first substrate inclusive of the drain electrode because it protects the TFT.

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In regards to claim 16, Endo et al. further discloses the channel layer [213] is formed along the signal line [214].

In regards to claim 18, Endo et al. further discloses the signal line [214] serves as a source electrode [207] disposed opposite to the drain electrode [215].

In regards to claim 19, Endo et al. further discloses a gate insulating layer between the scanning line [211] and the channel layer [213].

In regards to claim 20, Endo et al. further discloses an ohmic contact layer between the source and drain electrodes and the channel layer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Loke whose telephone number is (703) 308-4920. The examiner can normally be reached on 7:50 am to 5:20 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

sl
February 10, 2002

Steven Loke
Primary Examiner

